

Office of State Budget and Management

Information Technology Plan For 2014-2016 Biennium

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1 INTRODUCTION

1.1 PURPOSE

The purpose of this document is to provide agency data for the Information Technology Plan for the 2014-2016 Biennium to the North Carolina State Chief Information Officer (SCIO) as required by G.S. 147-33.72B. The statute mandates that each agency submit a technology plan to the SCIO by October 1 of each even-numbered year. The State Information Technology Plan (Plan) is required to cover a five-year time period. To properly inform the Plan, agency plans are also required to cover a five-year time period.

1.2 ROADMAP

Goal	Objective	Initiative	Description	Funding Mechanism
Goal 1 – Utilize current technology to efficiently and effectively support State Budgeting Processes	Objective 1.1 – Continue to enhance the Integrated Budget Information System (IBIS)	Initiative 1.1.2	Complete development of the IBIS Strategic Planning form and associated workflow	General funds
		Initiative 1.1.3	Enhance IBIS to include bulk upload capabilities for Certification, Budget Revisions and Worksheet IIs	General funds
	Objective 1.2 – Expand upon the Business Intelligence and operational reporting capabilities of the IBIS Cognos environment	Initiative 1.2.1	Produce the Governor’s recommended budget for the 15-17 biennium from the IBIS Cognos BI component	General funds
		Initiative 1.2.2	Migrate historical data from mainframe IMS databases into IBIS Oracle databases	General funds
		Initiative 1.2.3	Create BI Cubes to produce drill-down, analytical and historical/trend reports	General funds
	Objective 1.3 – Eliminate	Initiative 1.3.1	Replace mainframe COBOL	General funds

Goal	Objective	Initiative	Description	Funding Mechanism
	reliance on mainframe COBOL for IBIS interface processing		procedures with Oracle PL/SQL	
	Objective 1.4 – Implement MS Sharepoint	Initiative 1.4.1	Implement Sharepoint to enable more efficient collaboration and document management	General funds
Goal 2 – Provide excellent support for OSBM’s applications	Objective 2.1 – Streamline support model and technology stack	Initiative 2.1.1	Migrate legacy Oracle/Java applications from Sun Solaris to Z-Linux and Windows VMs	General funds
		Initiative 2.1.2	Refresh IBIS hardware	General funds
		Initiative 2.1.3	Improve NC Grants application	General funds
Goal 3 – Improve transparency and modernize web presence	Objective 3.1 – Improve NC Open Book	Initiative 3.1.1	Work with NC GEAR to improve the NC Open Book website as part of a larger initiative to improve open data in North Carolina	General funds
	Objective 3.2 – Redesign OSBM’s website	Initiative 3.2.1	Update the look and feel of OSBM’s website as part of the Digital Commons initiative	General funds

2 OFFICE OF STATE BUDGET AND MANAGEMENT IT PLAN EXECUTIVE SUMMARY

This document describes the IT goals and objectives of the Technology and Data Services (TDS) division within the Office of State Budget and Management. Each IT goal includes objectives and initiatives to support attainment of those objectives. Careful consideration was given to the agency goals and the State CIO's guiding principles and strategies as this IT plan was developed.

Many of the initiatives spelled out in this document are also covered in OSBM's Collaboration and Innovation Plan prepared in February 2014 to meet the requirements of Executive Order 30. While some of the items in that plan have been completed, there are a number of initiatives still planned for fiscal year 2015 and beyond, which are included in this document.

3 GUIDANCE

3.1 SCIO GUIDANCE

IT Vision

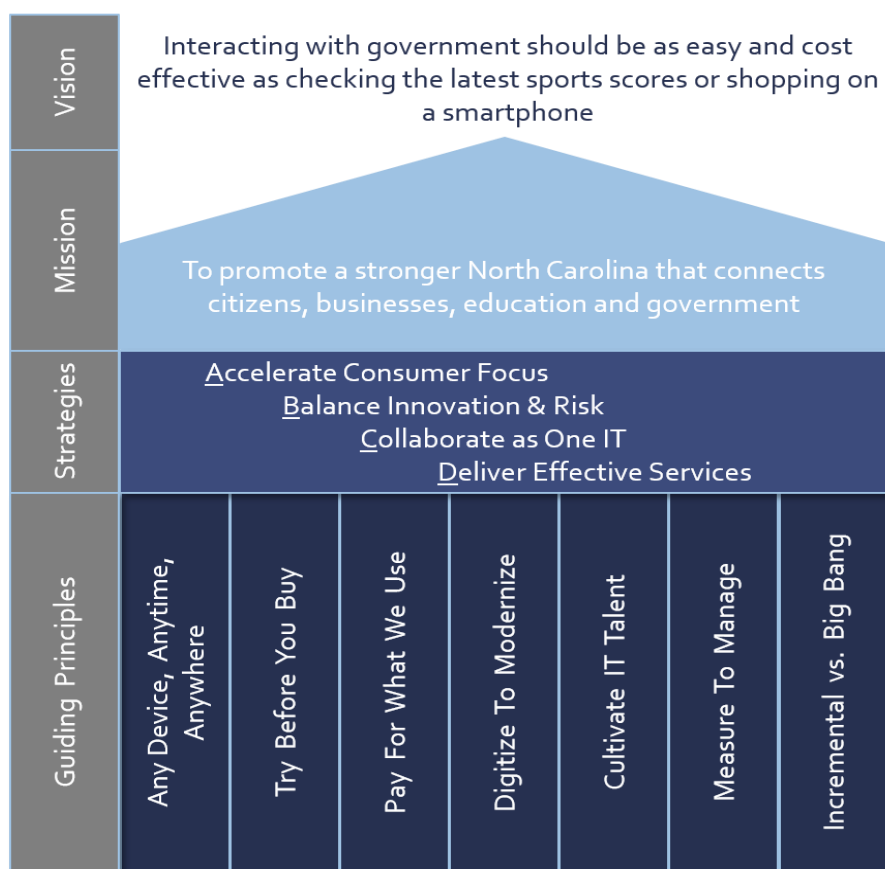
Making government services more accessible and efficient for all consumers is the foundation of the One IT strategy.

IT Mission

Promoting a stronger North Carolina that connects citizens, businesses, education, and government is the mission of IT.

IT Strategies

Strategies focus organizations to achieve complicated goals or objectives. With an eye to the future while sustaining current foundational requirements, the SCIO has adopted the “ABC” strategy to fix and modernize IT.



IT Vision, Mission, and Strategies

Strategy	Intended to:
A. Accelerate Consumer Focus	Embrace the consumerization of IT with a focus on the requirements of the consumer of technology
B. Balance Innovation and Risk	Try newer technologies while managing enterprise risk
C. Collaborate as One IT	Work as a team to accomplish our mission
D. Deliver Effective Operations	Focus on achieving business outcomes through effective and efficient technology delivery

In addition to the seven guiding principles outlined above, the SCIO’s [Cabinet Unite IT Strategy](#) focuses strongly on collaborative IT governance, big data and analytics (to include, but not limited to, work with GDAC and GIS), IT operations, and innovation.

The table below outlines the six IT business capabilities and five IT organizational capabilities highlighted in the Cabinet Unite IT Strategy.

Business Capabilities	Organizational Capabilities
Digital Focus	Collaborative IT Governance
Big Data and Analytics	Strategic Planning and Architecture
Enterprise Resource Planning	IT Program and Project Management
Application and Service Modernization	Innovation
Risk Management and Security	Talent Development and Management
IT Operations	

Please consider these areas, along with the seven guiding principles and your agency-specific goals and objectives when creating agency IT goals and objectives.

4 OFFICE OF STATE BUDGET AND MANAGEMENT MISSION, VISION AND GOALS

4.1 MISSION

OSBM helps the governor and state agencies effectively manage government resources for the good of all North Carolinians.

4.2 VISION

Set the standard among all state agencies in North Carolina and similar offices in other states.

4.3 AGENCY GOALS

Goal 1 – Provide Information

The Technology and Data Services Division (TDS) provides and supports the OSBM agency website, as well as the state's transparency site, NC Open Book. The purpose of both of these sites is to provide accurate information that people find useful and have confidence in. The Integrated Budget Information System (IBIS) is used for collecting, sharing and analyzing budget information to support the state's budget development and execution processes.

Objective 1.1 - Ensure the general public, news media, legislature, and other public bodies have confidence and rely on information from OSBM

Objective 1.2 - Improve convenience and accuracy of entering, collecting, sharing, and analyzing budget information

Objective 1.3 - Produce reports people use

Goal 2 - Manage Resources

The Technology and Data Services Division provides expertise in the use of technology to support OSBM in providing accountability in budgets, IT and audits. For example, the Integrated Budget Information System (IBIS) provides an integrated web-based solution for developing and executing the Governor's budget and providing useful and accurate budget reporting for state agencies and universities.

Objective 2.1 - Accountability in budgets

Objective 2.2 – Accountability in IT

Objective 2.3 – Accountability in audits and studies

Goal 3 – Evaluate Outcomes

TDS owns and maintains IBIS, which supports the business in enacting the state budget and ensuring a balanced budget at year end. The IBIS reporting solution provides a consistent and timely view of budget information, improving our ability to monitor and evaluate outcomes.

Objective 3.1 – Timely enactment of state budget

Objective 3.2 – End year with budget balanced

Objective 3.3 – Ensure benefits of new regulations justify costs

5 OFFICE OF STATE BUDGET AND MANAGEMENT IT MISSION AND VISION

5.1 IT MISSION

Partner with OSBM leadership team to help the governor and state agencies effectively manage government resources for the good of all North Carolinians.

5.2 IT VISION

Guide and support the business in the most efficient and effective use of technology.

6 OFFICE OF STATE BUDGET AND MANAGEMENT IT GOALS, OBJECTIVES AND INITIATIVES

6.1 GOAL 1 – UTILIZE CURRENT TECHNOLOGY TO EFFICIENTLY AND EFFECTIVELY SUPPORT STATE BUDGETING PROCESSES

The Technology and Data Services (TDS) Division of OSBM will provide guidance, resources and support to utilize current technology to efficiently and effectively support the State's budgeting processes. An example of the use of current technology is the newly implemented Integrated Budget Information System (IBIS), which went live on July 1, 2013. IBIS provides budget development and budget execution functionality for all state agencies and universities. This goal aligns closely with all three agency goals, which are to provide information, manage resources and evaluate outcomes.

6.1.1 Objective 1 - Continue to enhance the Integrated Budget Information System (IBIS).

6.1.1.1 *Initiative 1* – Complete development of the IBIS Strategic Planning form and associated workflow.

The TDS team plans to complete development of the Strategic Planning form in the fiscal year 2015-16.

6.1.1.2 *Initiative 2* – Enhance IBIS to include bulk upload capabilities for Certification, Budget Revisions and Worksheet IIs.

The bulk upload and download capability will streamline the process for agencies and universities to enter data into IBIS. These and other enhancements will be prioritized and scheduled for implementation following a release schedule that will include two major releases and a patching cycle each year.

6.1.2 Objective 2 – Expand upon the Business Intelligence and operational reporting capabilities of the IBIS Cognos environment.

6.1.2.1 *Initiative 1* – Produce the Governor's recommended budget for the 15-17 biennium from the IBIS Cognos BI component.

The Governor's recommended adjustments to the budget were published from IBIS in May, 2014. New reports and views will be created to support the publication of the

Governor's recommended budget for 15-17, which will be more extensive than the short session publication. Completion of this initiative will mark a significant milestone in the IBIS life cycle.

6.1.2.2 *Initiative 2* – Migrate historical data from mainframe IMS databases into IBIS Oracle databases.

The legacy budget system contains more than 30 years of historical data which must be migrated or purged prior to completely “sun setting” the legacy modules. Six years of historical data has already been migrated into IBIS databases, and the TDS team plans to transfer remaining data in the 2015 calendar year. The legacy budget preparation system contains Certification data back to 1989 and the Budget Revision system contains records dating back to 1985. All historical Allotments data, dating back to 2003, has already been migrated. Salary Control details will not be transferred.

6.1.2.3 *Initiative 3* – Create BI Cubes to produce drill-down, analytical and historical/trend reports.

OSBM has not yet been able to take full advantage of the power of the Cognos BI reporting toolset. With the implementation of IBIS, all known operational reporting requirements were met, but we have not developed any drill-down reporting using Cognos cubes. We also have not had an opportunity to develop dash boards and historical reports. Requirements for these types of reports have been gathered, and our intention is to dedicate resources to refining requirements and creating the reports over the 2015-17 biennium. In addition, there is an opportunity to improve reporting of budget and financial data by accessing the Office of the State Controller's Cognos data stores directly. OSBM will engage with the OSC technical team to explore possibilities in the coming biennium.

6.1.3 *Objective 3* – Eliminate reliance on mainframe COBOL for interface processing

6.1.3.1 *Initiative 1* – Replace mainframe COBOL procedures with Oracle PL/SQL procedures.

OSBM has employed a PL/SQL contractor to assist in replacing mainframe COBOL procedures, and we are in the process of recruiting a permanent PL/SQL developer to work directly with the contract resource on this and the historical data migration effort. Our plans are to complete this activity by March, 2015.

6.1.4 **Objective 4** – Implement MS Sharepoint

6.1.4.1 *Initiative 1* – Implement Sharepoint to enable more efficient collaboration and document management.

OSBM will participate in the statewide migration to Office 365, which includes email, Office, Lync and Sharepoint. The NC GEAR project utilizes a Sharepoint site currently hosted by Deloitte, which will need to transition to OSBM. It is our intention to migrate to Sharepoint as soon as resources can be identified and trained to serve as administrators of the Sharepoint environment. Our longer term vision is to utilize Sharepoint as a collaboration tool for the entire office.

6.2 GOAL 2 – PROVIDE EXCELLENT SUPPORT FOR OSBM’S APPLICATIONS

To provide the best support for OSBM’s applications, it is necessary to streamline the support model and move to a common technology stack where possible. Consolidating languages, tools and infrastructure will enable existing staff to concentrate on a core set of languages, hardware and software to improve their ability to support the applications.

OSBM has moved to a consistent Java framework running on Apache/Tomcat on Windows with Oracle databases hosted on z-Linux. COBOL mainframe legacy modules will be sunset, and any remaining batch processes written in COBOL will be re-written in PL/SQL. Applications running on Solaris will be migrated to Windows VMs or z-Linux where feasible. Lastly, IBIS hardware must be refreshed prior to July, 2015 when the hardware warranties expire.

6.2.1 Objective 1 – Streamline support model and technology stack

6.2.1.1 *Initiative 1* – Migrate legacy Oracle applications from Sun Solaris to Z-Linux.

TDS began the move from Solaris to Z-Linux with the IBIS databases in May of 2013, and has plans to migrate the remaining Oracle databases in the next 12 months.

6.2.1.2 *Initiative 2* – Refresh IBIS hardware.

IBIS Java and Cognos servers will be migrated from physical hardware to Windows VM’s, with the exception of the Production Cognos server, which will be refreshed with a physical server. This initiative is already underway, and must be completed by July, 2015.

6.2.1.3 *Initiative 3* – Improve NC Grants application.

The NC Grants application will eventually be replaced when the state implements a new Financials system. The NC Grants application was built in-house by the Office of the State Auditor and transferred to OSBM in 2009. This application requires remediation to keep it operationally stable until such time that all agencies are utilizing an enterprise Grants Management solution.

6.3 GOAL 3 – IMPROVE TRANSPARENCY AND MODERNIZE WEB PRESENCE

This goal aligns closely with business goal number one, which is to Provide Information.

6.3.1 Objective 1 – Improve NC Open Book

6.3.1.1 *Initiative 1* – Work with NC GEAR to improve the NC Open Book website as part of a larger initiative to improve open data in North Carolina.

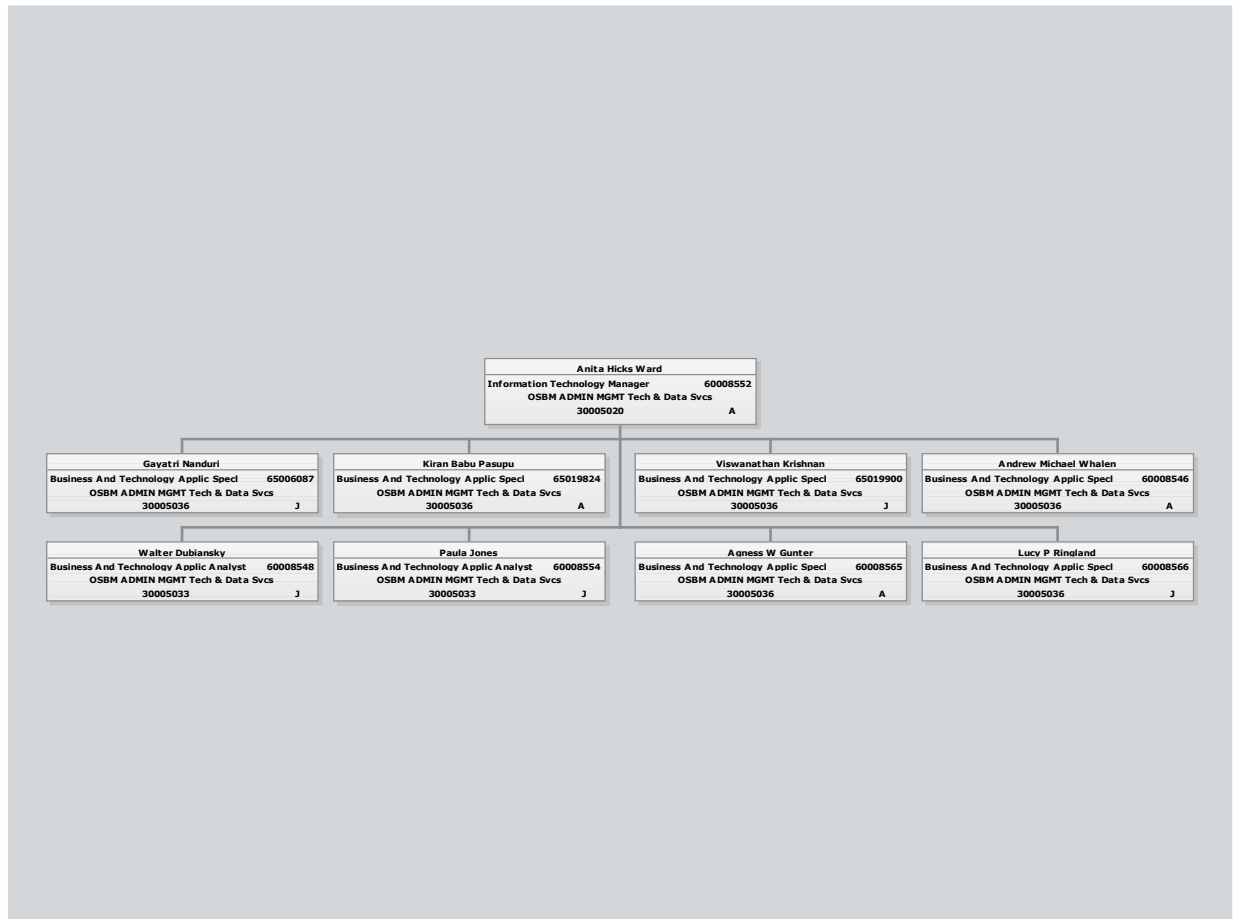
TDS will work closely with NC GEAR to improve the OpenBook website as part of a larger initiative to improve open data in North Carolina. OSBM will work with OSC to improve our processes and ensure accuracy of the data, while protecting private information. Lastly, we will make the site more user-friendly and strive to meet the standards by which the Public Interest Research Group (PIRG) measures state's transparency sites. The OpenBook application looks user-friendly, but is actually not very easy to use. Consumers of the data are not able to easily see the total amount the state spent with a particular vendor in a given fiscal year, for instance. OSBM will work with business stakeholders to define the requirements for an improved transparency website that meets the intent of Executive Order 4, which was to make spending data available on-line to North Carolina citizens.

6.3.2 Objective 2 – Redesign OSBM's website

6.3.2.1 *Initiative 1* – Update the look and feel of OSBM's website as part of the Digital Commons initiative.

TDS will also work to improve the look and feel of the OSBM website to match the consistent look and feel initiative that is part of a statewide branding effort. We will use the standard tools and templates, where feasible, to update the OSBM website and make improvements to content and the overall design and navigation.

7 OFFICE OF STATE BUDGET AND MANAGEMENT IT ORGANIZATIONAL STRUCTURE (REPORTING STRUCTURE)



8 ADDITIONAL AGENCY REQUIREMENTS

8.1 INNOVATIVE FUNDING SOLUTIONS

There is currently no IT budget allocated for NC OpenBook or OSBM website improvements. However, we will work collaboratively with other agency CIOs to understand how best to identify resources and funds to accomplish these initiatives. We will also partner with Innovation Center resources to explore using NC State Interns or a “hack-a-thon” approach for developing a better NC OpenBook and OSBM website. We also plan to explore methods to scrub the data of any sensitive information, as well as tools to help our customers more easily use the data. OSBM will explore leveraging resources at the GDAC for assistance with tools and expertise for managing the data.

8.2 OPPORTUNITIES FOR STATEWIDE INITIATIVES

Transparency in North Carolina Government

With the review and revamping of NC OpenBook, we have an opportunity to address transparency holistically, rather than only focusing on contracts, grants and other state spending. Government transparency spans across all agencies, and many agencies have made efforts around improving open data via their individual websites. Along with the Digital Commons initiative, there is an opportunity to look at defining how to make open data available in one place in a consistent, user-friendly format.

Survey Research tools

An enterprise license for survey research tools would provide better quality and greater comparability of customer and employee research within state government, they even provide the ability to intercept and redirect people who would otherwise use SurveyMonkey to the state’s enterprise solution. One reason people choose the tools they use is that those tools are free. An enterprise solution at no charge to the individual agency would remove the temptation. Every state agency uses Survey Monkey or Adobe Forms or SharePoint to conduct survey research. The quality of survey instrument design varies greatly based on the knowledge and time available. The results may be comparable within a questionnaire over time, but rarely within an agency and almost never across the entire enterprise. UNC Chapel Hill and NC State already use Qualtrics and it was the product OSHR had determined best met the state’s needs. Other options include QuestionPro and KeySurvey.

Data Visualization tools

State government employees need usable tools to see data in charts and map, and to share those visuals with citizens or other state employees. The tool should include a repository of common

data sources and be freely available like Excel. Analysts and managers would be able to understand state activities and outcomes better with such a tool, and it could also help with planning. Visualization software can import data from almost any source to produce maps or graphs in a more or less intuitive way that would allow an analyst, business manager, or interested citizen to create a graph or map to help understand the story in the data. An enterprise system would permit more opportunity to share data and analytical approaches. Publishing the data to one of the state's websites or a PowerPoint presentation is also easy. Pricing is available on per-user basis or an enterprise basis with the enterprise version becoming a better deal at around 100 users. Cloud-based versions are also available.

Appendix A: List of Major IT Projects

This purpose of this section is to provide list of major IT projects and applications (>\$250,000) that are in progress or planned in this biennium. The table below maps each project to overall goals and strategies.

Project Name	Short Description	Related Goals and Objectives	Summary of Anticipated Benefits	Approximate Timeframe

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